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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,843	04/10/2001	Min-Chieh Tsai	ACR0025-US	6948
27765	7590	09/01/2004	EXAMINER	
NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE) P.O. BOX 506 MERRIFIELD, VA 22116			LEFLORE, LAUREL E	
			ART UNIT	PAPER NUMBER
			2673	

DATE MAILED: 09/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/828,843

Applicant(s)

TSAI ET AL.

Examiner

Laurel E LeFlore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant has amended the specification and drawings to overcome the objection of Paper No. 3. Objection to the specification and drawings is withdrawn.
2. Applicant has amended claims 13, 15 and 14 to overcome the 37 CFR 1.75(c) objection of Paper No. 3. Objection to claims 13, 15, 7 and 14 is withdrawn.
3. Applicant's arguments filed 16 April 2004 have been fully considered but they are not persuasive.
4. In response to applicant's argument on pages 16-17 of Paper No. 4 that Swartz et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the invention of Swartz et al. discloses a cyclic function key for switching between modes of a computer (see rejection of claim 1 in Paper No. 3). The present invention discloses a "key switch system". The invention of Swartz et al. discloses a key switch system and is thus analogous art.
5. In response to applicant's argument on pages 19-20 of Paper No. 4 that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed

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invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

6. Further in regard to applicant's arguments on pages 19-20 of Paper No. 4, as stated on pages 5-6 of Paper No. 3, one would have been motivated to combine the two invention in order to "effect a substantially interference-free switching circuitry for sharing a pair of diversity antennae in a multi-transceiver mobile terminal", as taught by Vaisanen, and have such switching be user-controlled (as in the invention of Swartz et al.). Also, function keys for user-controlled switching between various modes of a computer, such as the ones disclosed by Swartz, are conventional and thus having a function key for switching between wireless communication modes, including activating IEEE802.11 protocol wireless communication, activating bluetooth protocol wireless communication, and deactivating both would conform with conventional use of a function key.

7. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2, 5, 6, 9, 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1.

In regard to claims 1 and 11, see rejection of claims 1 and 11 in Paper No. 3. Swartz in view of Vaisanen does not disclose that a maximum of one wireless communication apparatus is activated at a time. Vaisanen does disclose, however, in column 4, lines 51-52, that "the dual transceivers are not required to operate at the same time." Vaisanen further teaches in column 4, lines 52-54, "The dropping of an antennae connection and the setting up of a new antenna connection from scratch, of course, takes time and requires electrical power."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a maximum of one of the wireless communication apparatuses activated at a time, like the dual transceivers in the invention of Vaisanen. One would have been motivated to make such a change based on the teaching of Vaisanen that one may switch between the two with "the dropping of an antennae connection and the setting up of a new antenna connection from scratch". Further, one would have been motivated to make such a change in order to have an invention that sacrifices time and power for enhanced functionality (such as having two wireless protocols operating only at different times), as such tradeoffs are common and conventional in the design of any electronic apparatus.

Swartz in view of Vaisanen further discloses in turn activation of each of the plurality of wireless communication apparatuses. See Swartz, column 5, lines 38-40, disclosing, "repeated activation of one of the four function keys might cycle the

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keyboard 13 through a numeric mode and one or more alphabetic modes." Further, see see Paper No. 3 rejection of claims 1 and 11, regarding cycling wireless communication apparatuses. Swartz in view of Vaisanen does not disclose that the cyclic pattern comprises simultaneous deactivation of all of the plurality of wireless communication apparatuses. However, it is inherent that any wireless communication apparatus, and for that matter any electrical apparatus, may be turned off, and thus deactivated. The method of doing so is a matter of design choice. Thus, whatever inherent method which may be used to turn off the switching circuitry apparatus of Vaisanen would also deactivate simultaneously both of the wireless communication apparatuses (dual transceivers). It would be obvious to one of ordinary skill in the art at the time the invention was made to incorporate this deactivation of the dual transceivers as a mode in the switching cycle of Swartz in view of Vaisanen. One would have been motivated to make such a change in order to have a way of turning off wireless communication. Further, it is common and conventional to use a function key for deactivation.

10. In regard to claims 2, 5, 6, 9 and 16, see rejection of claims 2, 5, 6, 9 and 16 in Paper No. 3.

11. Claims 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1 as applied to claim 1 above, and further in view of Matsukata 6,540,606 B1.

12. In regard to claims 10 and 17, see rejection of claims 10 and 17 in Paper No. 3.

13. Claims 7, 8, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1 as applied to claim 1 above, and further in view of Sward et al. 6,545,643 B1.

14. In regard to claims 7, 8, 14 and 15, see rejections of claims 7, 8, 14 and 15 in Paper No. 3.

15. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1 as applied to claim 1 above, and further in view of Arbeitman et al. 5,528,266.

16. In regard to claims 3 and 12, Swartz in view of Vaisanen disclose a function key that generates an interrupt and initiates switching to a next state in the cyclic pattern. See Paper No. 3, rejection of claim 1. Swartz in view of Vaisanen does not disclose that the interrupt signal causes a section of memory to record the depression of the function key, and after recording, software monitoring the section of memory detects that a depression of the function key has been recorded. Swartz in view of Vaisanen is silent as to how the function key depression is detected.

Arbeitman discloses an invention in which a the interrupt signal causes a section of memory to record the depression of the function key, and after recording, software monitoring the section of memory detects that a depression of the function key has been recorded. See column 6, lines 15-35, disclosing, "FIG. 9 generally shows the manner in which buttons 30-33 are operated under program control... Upon actuation of any switch, it will... send to the associated register 302 a code... and an interrupt signal will be sent over lines 117 to the computer 60. An interrupt handling routine will then

query state register 302 and obtain therefrom the code...Deactuation of a switch will also cause an interrupt. Memory 138 stores the programs for interpreting the switches which will include device driver and emulation routines 304, an event generator, environment dependent routine 306 and application software 308. The emulation routines 304 can interpret the switches to represent mouse buttons or functions keys to enable the workpad to be used with application programs written for such support. "

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Swartz in view of Vaisanen by having the interrupt signal cause a section of memory to record the depression of the function key, and after recording, software monitoring the section of memory detect that a depression of the function key has been recorded, as in the invention of Albeitman. One would have been motivated to make such a change based on the teaching of Albeitman that this is the manner in which buttons are operated under program control, enabling the device to be used with application programs written for such support. Further, since Swartz in view of Vaisanen is silent as to how key depression is detected, one would have been motivated to use such a common and conventional method to detect depression of a key.

17. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1 as applied to claim 1 above, and further in view of Kleiman 5,515,538.

18. In regard to claims 4 and 13, Swartz in view of Vaisanen disclose a function key that generates an interrupt and initiates switching to a next state in the cyclic pattern.



See Paper No. 3, rejection of claim 1. Swartz in view of Vaisanen does not disclose that the interrupt signal causes a simulated hardware insertion and/or withdrawal signal to be transmitted to an operating system of the computer causing the operating system to initiate a switch. Swartz in view of Vaisanen is silent as to how the function key depression is detected.

Kleiman discloses an invention in which the interrupt signal (from a key depression) causes a simulated hardware insertion and/or withdrawal signal to be transmitted to an operating system of the computer causing the operating system to initiate a switch. See column 9, lines 1-10, in which Kleiman discloses, "hardware interrupts are generated when a key is pressed...When an interrupt occurs, control is transferred to the operating system, which determines what action is to be taken or generally what 'interrupt service' is to be performed. The portions of the operating system which perform the specific interrupt service required is generally called the 'interrupt handler'."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Swartz in view of Vaisanen by having the interrupt signal (from a key depression) cause a simulated hardware insertion and/or withdrawal signal to be transmitted to an operating system of the computer causing the operating system to initiate a switch, as in the invention Kleiman. One would have been motivated to make such a change since Swartz in view of Vaisanen is silent as to how the function key depression is detected and since Kleiman teaches this method of key

detection as standard and conventional (Note the use of common terms in Kleiman's teaching).

***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Awater et al. discloses an invention which switches between IEEE 802.11 and bluetooth wireless communication protocols.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (703) 305-3885. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LEL  
3 June 2004



JOSEPH MANCUSO  
PRIMARY EXAMINER